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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/817,672	03/26/2001	Bryan W. Shirk	TRW (VSSIM) 4686-1	9811

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EXAMINER

LUM VANNUCCI, LEE SIN YEE

ART UNIT	PAPER NUMBER
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3611

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/817,672

Applicant(s)

SHIRK ET AL.

Examiner

Ms. Lee S. Lum

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-17,19-32,34-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) all is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

1. An Amendment was filed 1/24/05.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

A. **Claims 1, 10-13 and 32** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wnuk et al 5939467 in view of Buchanan et al 6342304.

Re **Claims 1 and 13**, Wnuk discloses a product comprising a biodegradable material (obviously having a cellular structure),

consisting essentially of a PHA resin (c24, ln 3-5, and c26, third complete paragraph),

the PHA resin being a copolymer including PHB (3-hydroxybutyrate) or PHBV (3-polyhydroxyvalerate) (c22, ln 40-44, and c23, ln 29-33).

The reference does not disclose a product as a vehicle component, while Buchanan shows this application in c15, ln 21. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this endproduct, as shown in Buchanan, thus aiding the environment when the product is finally discarded.

Re Claim 10, Wnuk discloses the PHA resin as "formed into fibers" in c33, ln 27-30.

Re Claim 11, Wnuk discloses the PHA fibers as bonded together to form a fabric in c33, ln 33-37.

Re Claim 12, Wnuk discloses the PHA resin as comprising polyhydroxyoctanoate in c13, ln 44-47.

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Re Claim 12, Wnuk discloses the PHA resin as comprising polyhydroxyoctanoate in c13, In 44-47.

Re Claim 32, Wnuk does not disclose a biodegradable airbag canister comprising PHA resin, while Buchanan exemplifies this product in c17, In 46; "solid plastic articles". It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this product, as exemplified in Buchanan, to render it biodegradable, thus aiding the environment when the canister is discarded.

B. Claims 3, 7, 8, 34, 35, 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wnuk in view of Buchanan, and in further view of Noda 6174990.

Re Claims 3, 7, 34, 35 and 39, the previous references do not disclose a composition including PHA resin and a biodegradable fiber, while Noda shows this fiber in c21, In 50-52; "wood pulp". It would have been obvious to one with ordinary skill in the art at the time the invention was made to include these arrangements, as shown in Noda, to provide increased biodegradability to the material, thus aiding the environment when it is finally discarded.

Re Claims 8 and 40, Wnuk discloses the PHA as a copolymer including PHB in c13, In 41-43.

C. Claims 9 and 14-16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wnuk in view of Buchanan, and in further view of Soane et al 6607994.

The previous references do not disclose the biodegradable fiber as cotton, while Soane shows this fiber in c10, In 26-27 and 39-43. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this type of fiber, as shown in Soane, to increase biodegradability, thus aid the environment when the material is finally discarded. This fiber also includes sound-deadening characteristics, thus increasing comfort for the passengers.

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D. **Claims 4-6, 36-38, 39 and 41** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wnuk in view of Buchanan and Noda, and in further view of Soane.

Re Claims 4-6 and 36-38, the previous references do not disclose certain aspects of the biodegradable fibers, while Soane shows, in c10, first complete paragraph,

These fibers as continuous, and woven together (c10, ln 20, 16 and 30),

Or discontinuous, and bonded to form a web/nonwoven material (c10, ln 20, 31 and 34-38).

The recited characteristics (dis/continuous) are well-known forms of the fibers, and the various means of manipulating them are very well-known. Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to include these fiber characteristics, as shown in Soane, in a particular means of manipulation towards the desired endproduct. Thus, the endproduct is made in a cost-efficient manner.

Re Claims 39 and 41, the previous references do not disclose the biodegradable fiber as natural/synthetic, while Soane shows these characteristics in c10, ln 23-26 and 39. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this type of fiber, as shown in Soane, to increase biodegradability, thus aiding the environment when the material is finally discarded.

E. **Claims 17, 27-31 and 42-46** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wnuk in view of Veiga et al 6455449.

Re Claims 17, 27 and 42, Wnuk does not disclose a biodegradable airbag, while Veiga shows this element in c5, ln 17-20. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this endproduct, as shown in Veiga, to aid the environment when the airbag is finally discarded.

Re Claims 28 and 43, Wnuk discloses the PHA resin as "formed into fibers" in c33, ln 27-30.

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Re Claims 29 and 44, Wnuk discloses the PHA fibers as bonded together to form a fabric in c33, ln 33-39.

Re Claims 30 and 45, Wnuk discloses the PHA resin as including 3-hydroxybuturate-co-3-hydroxyvalerate in c13, ln 45-46.

Re Claims 31 and 46, the previous references do not disclose specific ranges of (Mullen) burst strength and elastic modulus, but these characteristics are inherent in the product comprising the constituent elements as provided above. That is, given the particular components of the airbag as provided above, a minimum burst strength of 1500 psi, and an elastic modulus range of 10000-40000 psi, would be present in the product.

F. **Claim 19** is rejected under 35 U.S.C. 103(a) as being unpatentable over Wnuk in view of Veiga, and in further view of Buchanan.

The previous references do not disclose a biodegradable airbag canister, while Buchanan exemplifies this item in c17, ln 46; "solid plastic articles". It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this endproduct, as exemplified in Buchanan, thus aiding the environment when the canister is finally discarded.

G. **Claims 20, 24 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wnuk in view of Veiga, Buchanan, and in further view of Noda.

Re Claims 20 and 24, the previous references do not disclose the canister as including PHA resin reinforced with a biodegradable fiber, while Noda shows this material in this fiber in c21, ln 50-52. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this material, as shown in Noda, to provide increased biodegradability to the material, thus aiding the environment when the canister is finally discarded.

Re Claim 25, Wnuk discloses the PHA as a copolymer of PHB in c13, ln 41-43.

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H. **Claims 21-23 and 26** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wnuk in view of Veiga, Buchanan, and Noda, and in further view of Soane.

Re Claims 21-23, the previous references do not disclose certain characteristics of the biodegradable fibers, while Soane shows, in c10, first complete paragraph,

These fibers as continuous, and woven together (c10, ln 20, 16 and 30),

Or discontinuous, and bonded to form a web/nonwoven material (c10, ln 20, 31 and 34-38).

The recited characteristics (dis/continuous) are well-known forms of the fibers, and the various means of manipulating them are very well-known. Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to include these fiber characteristics, as shown in Soane, in a particular means of manipulation towards the desired endproduct. Thus, the endproduct is made in a cost-efficient manner.

Re Claim 26, Soane further shows the biodegradable fiber as cotton in c10, ln 39. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this type of fiber, as shown in Soane, to provide increased biodegradability to the material, thus aiding the environment when the canister is finally discarded.

3. RESPONSE TO REMARKS

Examiner maintains her rejections as provided above. Wnuk in view of Buchanan, etc, discloses the recited elements.

In specific response:

Beginning on pp 9-10 (first complete paragraph), Applicant argues Wnuk as failing to disclose "said biodegradable material consisting essentially of a polyhydroxyalkanoate resin...", with emphasis on the underlined phrase. Because the reference combines the resin material with other materials, it is asserted that the language "consisting essentially of" is not obviated.

However, Applicant's reasoning is unclear. It is (and was in the previous Office Action), noted in Wnuk that

"Polyhydroxyalkanoates are generally employed in an amount of at least about 10% by weight, based on the total weight of the biodegradable polymers in the blend." (c23, ln 49-51) ... "For fiber applications, a practical upper limit is about 70-80 weight % PHA..." (c24, ln 3-5).

Also, the MPEP provides that "consisting essentially of "

"limits the scope of a claim to the specified materials or steps "and those that do not materially affect the basic and novel characteristics" of the claimed invention."
--- *In re Herz*, 537 F. 2nd 549, 551-52, 190 USPQ 461, 463 (CCPA 1976).

Therefore, Wnuk's composition, including a polyhydroxyalkanoate, obviates this recitation, according to the disclosure in c24, ln 3-5, because this material forms the basic and novel characteristic of the intended compound.

Additionally, the fact that Wnuk suggests combining polyhydroxyalkanoate with other materials is immaterial because the other materials do not affect the basic and novel characteristic of the compound.

Subsequent arguments on p10 involve Buchanan, as combined with Wnuk. Buchanan was combined to teach "a vehicle component comprising a biodegradable material" (Claims 1 and 13, emphasis added), and this element is disclosed in c15, ln 21. It is immaterial that the reference also discloses "blends" consisting of several polyesters, including polyhydroxyalkanoate. The point of this particular discussion is that Buchanan teaches the above-quoted recitation; any other aspect is irrelevant.

On the other hand, Applicant appears to be making a piecemeal analysis of separate references, where the combination is clearly intended. See *In re Keller*, 208 USPQ 871 (CCPA 1981).

Similar arguments are repeated at great length (to p17), for rejections employing Wnuk in view of Buchanan, Noda, Soane, etc., and appear to have similar defects in claim interpretation, or use/interpretation of references. Therefore, Examiner's remarks are also similar, and are not repeated.

On p11, it is asserted that

“...claims 3 and 34 are allowable over Wnuk in view of Buchanan and Noda because Noda neither teach nor suggest (sic) that the addition of “wood pulp” increases the biodegradability of the material...”.

However, in these Claims, it is recited “wherein the vehicle component is made from a composite, the composite comprising...polyhydroxyalkanoate resin reinforced with a biodegradable fiber.” Noda teaches wood pulp in c21, ln 50-52, which is clearly a “biodegradable fiber”. Therefore, the recited elements in Claims 3 and 34, at least, are obviated. Again, the Applicant's objective in this argument is unclear.

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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5. Communication with USPTO/Examiner

Any inquiry concerning this communication, or others, should be directed to Ms. Lum at 571 272-6649, M-F, 9-5. If attempts to reach the examiner are unsuccessful, her supervisor, Ms. Lesley Morris is at 571 272-6651. Our fax number is 703 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for unpublished applications: private PAIR only, for published applications: private or public PAIR. For more information re PAIR: <http://pair-direct.uspto.gov>. Questions re private PAIR: contact the Electronic Business Center (EBC) at 866 217-9197.


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Ms. Lee S. Lum
Examiner
6/9/05

